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1 [Garbage collection for a client-server persistent object store](#)
◆ Laurent Amsaleg, Michael J. Franklin, Olivier Gruber
August 1999 ACM Transactions on Computer Systems (TOCS), Volume 17 Issue 3
Publisher: ACM
Full text available:  pdf(267.18 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#), [review](#)
Bibliometrics: Downloads (6 Weeks): 10, Downloads (12 Months): 70, Citation Count: 1
We describe an efficient server-based algorithm for garbage collecting persistent object stores in a client-server environment. The algorithm is incremental and runs concurrently with client transactions. Unlike previous algorithms, it does not hold ...
Keywords: client-server system, logging, persistent object-store, recovery

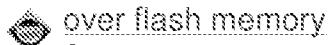
2 [An on-the-fly reference-counting garbage collector for java](#)
◆ Yossi Levanoni, Erez Petrank
January 2006 ACM Transactions on Programming Languages and Systems (TOPLAS), Volume 28 Issue 1
Publisher: ACM
Full text available:  pdf(787.15 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)
Bibliometrics: Downloads (6 Weeks): 10, Downloads (12 Months): 159, Citation Count: 0
Reference-counting is traditionally considered unsuitable for multiprocessor systems. According to conventional wisdom, the update of reference slots and reference-counts requires atomic or synchronized operations. In this work we demonstrate this is ...
Keywords: Programming languages, garbage collection, memory management, reference-counting

3 [An efficient on-the-fly cycle collection](#)
◆ Harel Paz, David F. Bacon, Elliot K. Kolodner, Erez Petrank, V. T. Rajan
August 2007 ACM Transactions on Programming Languages and Systems (TOPLAS), Volume 29 Issue 4
Publisher: ACM
Full text available:  pdf(952.16 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)
Bibliometrics: Downloads (6 Weeks): 5, Downloads (12 Months): 181, Citation Count: 0

A reference-counting garbage collector cannot reclaim unreachable cyclic structures of objects. Therefore, reference-counting collectors either use a backup tracing collector infrequently, or employ a cycle collector to reclaim cyclic structures. We ...

Keywords: Programming languages, concurrent cycle collection, garbage collection, memory management, reference counting, runtime systems

4 The Design of efficient initialization and crash recovery for log-based file systems



over flash memory

Chin-Hsien Wu, Tei-Wei Kuo, Li-Pin Chang

November 2006 ACM Transactions on Storage (TOS), Volume 2 Issue 4

Publisher: ACM

Full text available: pdf(336.16 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 13, Downloads (12 Months): 275, Citation Count: 1

While flash memory has been widely adopted for storage systems for various embedded systems, issues of performance and reliability have started receiving growing attention in recent years. How to provide efficient roll back and quick mounting for flash-memory ...

Keywords: Flash memory, crash recovery, efficient initialization, embedded systems, file systems, storage systems

5 Skippy: a new snapshot indexing method for time travel in the storage manager



Ross Shauli, Liuba Shrira, Hao Xu

June 2008 SIGMOD '08: Proceedings of the 2008 ACM SIGMOD international conference on Management of data

Publisher: ACM

Full text available: pdf(253.90 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 0, Downloads (12 Months): 0, Citation Count: 0

The storage manager of a general-purpose database system can retain consistent disk page level snapshots and run application programs "back-in-time" against long-lived past states, virtualized to look like the current state. This opens the possibility ...

Keywords: database, snapshots, time travel, versions

6 Garbage-first garbage collection



David Detlefs, Christine Flood, Steve Heller, Tony Printezis

October 2004 ISMM '04: Proceedings of the 4th international symposium on Memory management

Publisher: ACM

Full text available: pdf(199.59 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 20, Downloads (12 Months): 162, Citation Count: 8

< i>Garbage-First</i> is a server-style garbage collector, targeted for multi-processors with large memories, that meets a soft real-time goal with high probability, while achieving high throughput. Whole-heap operations, such as global marking, ...

Keywords: concurrent garbage collection, garbage collection, garbage-first garbage collection, parallel garbage collection, soft real-time garbage collection

7 Using passive object garbage collection algorithms for garbage collection of active objects



Abhay Vardhan, Gul Agha

February 2003 ACM SIGPLAN Notices, Volume 38 Issue 2 supplement

Publisher: ACM

Full text available: pdf(192.46 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 3, Downloads (12 Months): 29, Citation Count: 0

With the increasing use of active object systems, agents and concurrent object oriented languages like Java, the problem of garbage collection (GC) of unused resources has become more complex. Since active objects are autonomous computational agents, ...

Keywords: Java, active objects, actors, agents, garbage collection, program transformation

8 Using passive object garbage collection algorithms for garbage collection of active objects



Abhay Vardhan, Gul Agha

June 2002 ISMM '02: Proceedings of the 3rd international symposium on Memory management

Publisher: ACM

Full text available: pdf(192.46 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 3, Downloads (12 Months): 29, Citation Count: 0

With the increasing use of active object systems, agents and concurrent object oriented languages like Java, the problem of garbage collection (GC) of unused resources has become more complex. Since active objects are autonomous computational agents, ...

Keywords: Java, active objects, actors, agents, garbage collection, program transformation

9 MC²: high-performance garbage collection for memory-constrained environments



Narendran Sachindran, J. Eliot B. Moss, Emery D. Berger

October 2004 ACM SIGPLAN Notices, Volume 39 Issue 10

Publisher: ACM

Full text available: pdf(503.53 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 5, Downloads (12 Months): 50, Citation Count: 6

Java is becoming an important platform for memory-constrained consumer devices such as PDAs and cellular phones, because it provides safety and portability. Since Java uses garbage collection, efficient garbage collectors that run in constrained memory ...

Keywords: copying collector, generational collector, java, mark-compact, mark-copy, mark-sweep, memory-constrained copying

10 MC²: high-performance garbage collection for memory-constrained environments



Narendran Sachindran, J. Eliot B. Moss, Emery D. Berger

October 2004 OOPSLA '04: Proceedings of the 19th annual ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications

Publisher: ACM

Full text available:  pdf(503.53 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 5, Downloads (12 Months): 50, Citation Count: 6

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Keywords: copying collector, generational collector, java, mark-compact, mark-copy, mark-sweep, memory-constrained copying

11 [FlashDB: dynamic self-tuning database for NAND flash](#)

 Suman Nath, Aman Kansal

April 2007 IPSN '07: Proceedings of the 6th international conference on Information processing in sensor networks

Publisher: ACM

Full text available:  pdf(286.22 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 17, Downloads (12 Months): 213, Citation Count: 0

FlashDB is a self-tuning database optimized for sensor networks using NAND flash storage. In practical systems flash is used in different packages such as on-board flash chips, compact flash cards, secure digital cards and related formats. Our experiments ...

Keywords: B+-tree, NAND flash, indexing, log-structured index, self-tuning index

12 [An on-the-fly mark and sweep garbage collector based on sliding views](#)

 Hezi Azatchi, Yossi Levanoni, Harel Paz, Erez Petrank

October 2003 OOPSLA '03: Proceedings of the 18th annual ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications

Publisher: ACM

Full text available:  pdf(244.12 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 1, Downloads (12 Months): 59, Citation Count: 11

With concurrent and garbage collected languages like Java and C# becoming popular, the need for a suitable non-intrusive, efficient, and concurrent multiprocessor garbage collector has become acute. We propose a novel mark and sweep on-the-fly algorithm ...

Keywords: concurrent garbage collection, garbage collection, memory management, on-the-fly garbage collection, runtime systems

13 [An on-the-fly mark and sweep garbage collector based on sliding views](#)

 Hezi Azatchi, Yossi Levanoni, Harel Paz, Erez Petrank

November 2003 ACM SIGPLAN Notices, Volume 38 Issue 11

Publisher: ACM

Full text available:  pdf(244.12 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 1, Downloads (12 Months): 59, Citation Count: 11

With concurrent and garbage collected languages like Java and C# becoming popular, the need for a suitable non-intrusive, efficient, and concurrent multiprocessor garbage collector has become acute. We propose a novel mark and sweep on-the-fly algorithm ...

Keywords: concurrent garbage collection, garbage collection, memory management, on-the-fly garbage collection, runtime systems

14 An on-the-fly reference counting garbage collector for Java

 Yossi Levanoni, Erez Petrank

November 2001 ACM SIGPLAN Notices, Volume 36 Issue 11

Publisher: ACM

Full text available:  pdf(280.30 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 1, Downloads (12 Months): 43, Citation Count: 17

Reference counting is not naturally suitable for running on multiprocessors. The update of pointers and reference counts requires atomic and synchronized operations. We present a novel reference counting algorithm suitable for a multiprocessor that does ...

15 An on-the-fly reference counting garbage collector for Java

 Yossi Levanoni, Erez Petrank

October 2001 OOPSLA '01: Proceedings of the 16th ACM SIGPLAN conference on Object oriented programming, systems, languages, and applications

Publisher: ACM

Full text available:  pdf(280.30 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 1, Downloads (12 Months): 43, Citation Count: 17

Reference counting is not naturally suitable for running on multiprocessors. The update of pointers and reference counts requires atomic and synchronized operations. We present a novel reference counting algorithm suitable for a multiprocessor that does ...

16 Correctness-preserving derivation of concurrent garbage collection algorithms

 Martin T. Vechev, Eran Yahav, David F. Bacon

June 2006 ACM SIGPLAN Notices, Volume 41 Issue 6

Publisher: ACM

Full text available:  pdf(251.26 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 10, Downloads (12 Months): 71, Citation Count: 2

Constructing correct concurrent garbage collection algorithms is notoriously hard. Numerous such algorithms have been proposed, implemented, and deployed - and yet the relationship among them in terms of speed and precision is poorly understood, and ...

Keywords: concurrent algorithms, concurrent garbage collection, synthesis, verification

17 Correctness-preserving derivation of concurrent garbage collection algorithms

 Martin T. Vechev, Eran Yahav, David F. Bacon

June 2006 PLDI '06: Proceedings of the 2006 ACM SIGPLAN conference on Programming language design and implementation

Publisher: ACM

Full text available:  pdf(251.26 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 10, Downloads (12 Months): 71, Citation Count: 2

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Keywords: concurrent algorithms, concurrent garbage collection, synthesis, verification

18 [Message analysis-guided allocation and low-pause incremental garbage collection in a concurrent language](#)

 Konstantinos Sagonas, Jesper Wilhelmsson

October 2004 ISMM '04: Proceedings of the 4th international symposium on Memory management

Publisher: ACM

Full text available:  pdf(650.12 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 3, Downloads (12 Months): 34, Citation Count: 4

We present a memory management scheme for a concurrent programming language where communication occurs using message-passing with copying semantics. The runtime system is built around process-local heaps, which frees the memory manager from redundant ...

Keywords: Erlang, concurrent languages, incremental and real-time garbage collection, thread-local heaps

19 [Ulterior reference counting: fast garbage collection without a long wait](#)

 Stephen M. Blackburn, Kathryn S. McKinley

October 2003 OOPSLA '03: Proceedings of the 18th annual ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications

Publisher: ACM

Full text available:  pdf(218.61 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 4, Downloads (12 Months): 47, Citation Count: 13

General purpose garbage collectors have yet to combine short pause times with high throughput. For example, generational collectors can achieve high throughput. They have modest average pause times, but occasionally collect the whole heap and consequently ...

Keywords: Java, copying, generational hybrid, reference counting, ulterior reference counting

20 [Ulterior reference counting: fast garbage collection without a long wait](#)

 Stephen M. Blackburn, Kathryn S. McKinley

November 2003 ACM SIGPLAN Notices, Volume 38 Issue 11

Publisher: ACM

Full text available:  pdf(218.61 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

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Keywords: Java, copying, generational hybrid, reference counting, ulterior reference counting

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